

REMARKS

The Advisory Action and the citation referred to by the Examiner have been carefully considered.

In the Advisory Action, the examiner states that "Mizutani et al, discloses modifying the luminance value along the edges, and further provides for reduced luminance values, it is inherent that if said luminance value is significantly reduced the value would not require further processing and therefor create a discarded pixel feature."

With respect to the examiner's previous objection based upon 35 U.S.C. 102(b) and the examiner's statement in the Advisory Action, we have the following remarks and respectfully draw the examiner's attention to the proposed amendments to claim 1 which we consider further clarifies steps in the method of claim 1 of the instant application that are not disclosed by Mizutani et al. In this respect, we have requested deletion of claims 5 and 6 without prejudice and introduced features therefrom into independent claim 1.

Mizutani et al at Column 2, lines 30 to 32 discloses the reduction of precision in an image by locating contrast edges in an image and modifying the luminance along those edges. The effect of this process is further described at column 2, lines 32 to 35 as producing an image in which objects and features are outlined and therefore have an enhanced definition from the background. With respect, we draw the examiner's attention to the fact that the "reduction" in this passage refers to a reduction in the precision of the image and not a reduction in the relative level of luminance along edges that define objects in the image as stated by the examiner.

In any event, whilst Mizutani may disclose modifying the luminance value along edges which, in some instances, may result in reduced luminance values and the subsequent, yet inadvertent, discarding of an image feature, we respectfully draw the examiner's attention to the lack of disclosure in Mizutani of specific steps of the amended claim 1 of the instant application.

In particular, Mitzutani does not disclose the specific steps in the instant claim 1 of "thresholding and skeletonising an image to produce an image comprising single pixel width definition of features;" and "discarding features of the produced image having a size less than a pre-determined size". These specific steps are not disclosed by Mitzutani which are steps in the method of the instant application that will positively result in the removal of specific image features when processing an image. This is in direct contrast to the teaching of Mitzutani which, in some instances, may result in the removal of certain image features by chance during the processing of an image.

In the preferred embodiment of the instant application, any image feature defined by a single pixel width line having a length of less than twenty contiguous pixels is discarded prior to the subsequent image processing step of stroking the image with a series of brush strokes. This aspect of the instant application is the subject of claim 7 which has also been amended to improve clarity.

An image processed by a system described by Mitzutani could result in the presence of a large number of simulated brush strokes for very short image features which could detract from the simulated effect of the brush strokes of a human artist. At column 6, lines 56 to 63, Mitzutani directly describes the application of his image processing steps as generating a simulated brush stroke in a region of high image contrast for image features of less than seven pixels. In these regions of high contrast, the processing method of Mitzutani is described as not generating a simulated brush stroke in the event that an image feature of more than seven pixels is located. In any event, the method of Mitzutani is not able to directly pre-determine the size of any image feature for which a simulated brush stroke will, or will not, be generated.

By comparison, the feature of the instant application's method which includes the positive removal of features that are less than a pre-determined size provides a significant increase in the control over the size of image features that will result in the generation of a simulated brush stroke. The ability to pre-determine the size of image features that will be discarded during the processing of an image provides a distinct advantage over the system as described by Mitzutani by providing a user with the ability to control the application of simulated brush strokes to various sized image features and hence to control the realism of an image which has been processed to include simulated brush strokes.

Such a level of control of the application of simulated brush strokes is not taught by Mizutani and accordingly, the realism of any resulting image with simulated brush strokes from such a system will depend very much upon the system's automatic selection and averaging of luminance values.

The applicant respectfully contends that Mizutani fails to disclose or suggest any positive step of discarding features of an image which are smaller than a predetermined size. This feature was introduced in the Amendment filed 30 October 2000 in order to distinguish the present invention from Mizutani, and it is respectfully submitted that all of the sections of Mizutani identified by the various Official Actions issued in relation to the instant application do not disclose or suggest this feature, nor the advantages resulting therefrom. Moreover, the applicant contends that as Mizutani clearly does not disclose specific method steps as now claimed in claim 1 (as amended) and as such, Mizutani cannot be used in support of a rejection based upon 35 U.S.C. 102(b).

With respect to the earlier 35 USC § 102 rejections of claims 2 and 4 to 7, it is respectfully submitted that as the preceding remarks and the proposed amendments to claim 1 place this claim in a format suitable for allowance, then, at least by virtue of their dependency on claim 1, and in light of the removal of claims 5 and 6, Claims 2, 4 and 7 are also suitable for allowance.

Under the heading "Claim Rejections – 35 U.S.C. § 103", the Examiner rejects claim 3 as being unpatentable over US Patent No. 5,621,868 (Mizutani) in view of US Patent No. 5,999,190 (Sheasby). The Examiner's comments in this regard have once again been carefully considered. It is submitted that the preceding remarks and the amendments to claim 1 illustrate that claim 1 is in a format suitable for acceptance. The proposed amendments to claim 1 clearly introduce features not disclosed in Mizutani or Sheasby either individually, or in combination. Additionally, the applicant contends that there is no suggestion of motivation in either of the references to combine or modify the references to include the undisclosed features of claim 1 (as amended). Given that claim 3 depends from claim 1, it is submitted that claim 3 is patentably distinguishable over the cited prior art at least by virtue of dependency on claim 1.

Accordingly, it is respectfully submitted that the Examiner's rejections under 35 U.S.C. § 103 have been successfully traversed.

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Conclusion

It is respectfully submitted that all the Examiner's objections have been successfully traversed and that the application is now in order for acceptance. Accordingly, reconsideration of the application and allowance thereof is courteously solicited.

Very respectfully,

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ANNEX BClaim 1 - (Twice amended)

A method of automatically processing an image comprising the steps of locating, within the image, features having a high spatial variance by:

thresholding and skeletonising the image to produce an image comprising single pixel width definition of features;

discarding features of the produced image having a size less than a predetermined size; and

stroking the image with a series of brush strokes emanating from remaining features of the produced image.

Claim 7 - (Twice amended)

The method of claim 1 wherein the step of discarding comprises discarding located features having a size of less than 20 contiguous pixels.